Emptying storage tanks ahead of schedule

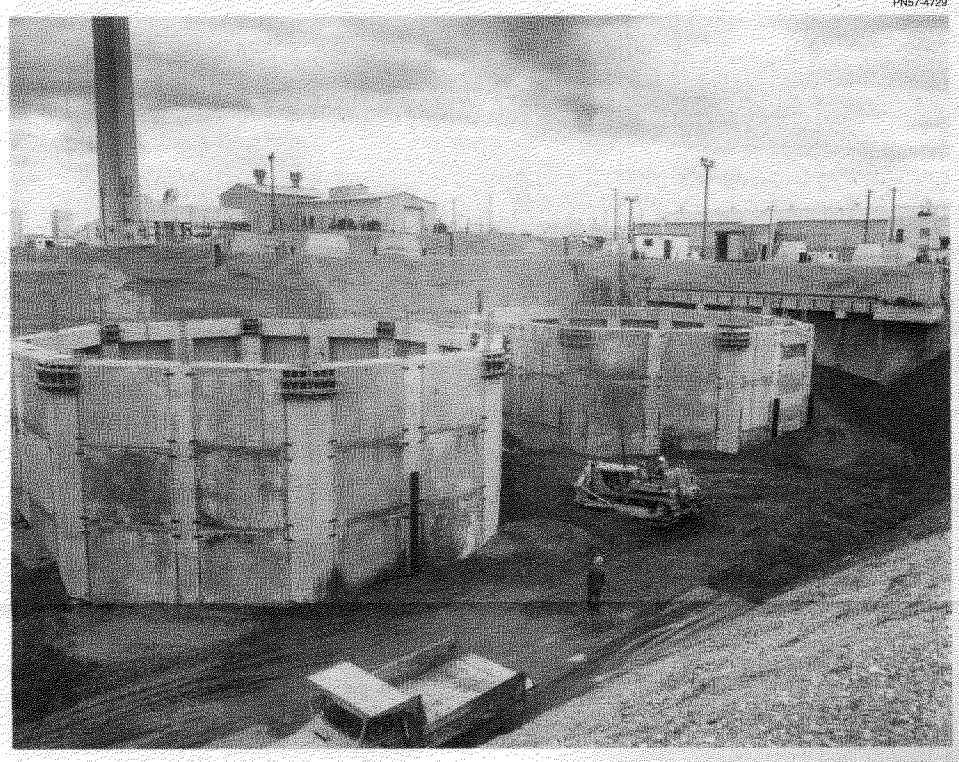
Idaho Completion Project employees are making rapid progress on removing the rest of the liquid radioactive waste stored above the Snake River Plain Aquifer. Last year, waste was removed from the fifth of 11, 300,000-gallon tanks in the liquid radioactive waste tank farm at INTEC. The storage tanks were used to store the radioactive liquid waste generated during the reprocessing of spent fuel, which was done during the Cold War to extract uranium, and plant decontamination work. Most of the liquid has been calcined, which reduces the volume and converts it to a more stable solid form, and placed in storage bins.

The current step in closing the tank farm is to clean the tanks to remove as much contamination as possible before final closure. An innovative high-pressure spray system is used to wash the tanks and remove contamination from the walls and bottoms of the tanks.

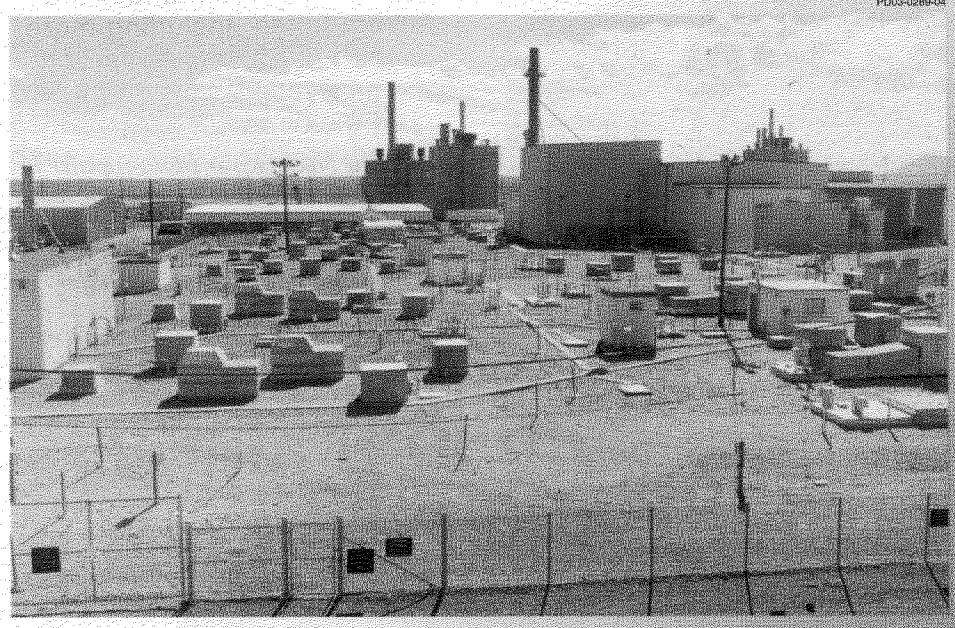
In the next year, an additional tank will be cleaned to standards approved by the state of Idaho. Under the accelerated cleanup plan, the goal is to empty and close all 11 storage tanks by 2012.

Octagonal tank vaults being constructed at the Idaho Nuclear Technology and Engineering Center's tank farm in 1957.

PN57-4729

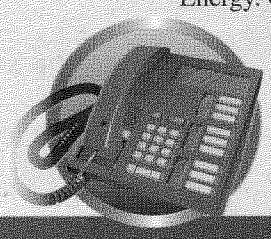


PD03-0269-04



The tank farm contains eleven 300,000-gallon storage tanks. Five of the tanks have been emptied and the remaining tanks will be emptied and cleaned by 2012, four years ahead of previous schedules.

Inside INEEL is published by the Idaho National Engineering and Environmental Laboratory's Communications Office for the U.S. Department of Energy. Questions and comments can be directed to:



ICP Communications
1955 Fremont Avenue
P.O. Box 1625
Idaho Falls, ID 83415-3206
(208) 526-0075
icp@inel.gov

Boise Regional Office
800 Park Blvd, Suite 790
Boise, ID 83712
(208) 334-9574

Editor — Stacey Francis
Contributors — Bruce Byram, Joseph Campbell, Rick Bolton
Graphic artist — David Combs

Inside INEEL is printed on recycled paper and can be recycled as white paper. For general information on the INEEL, call our toll-free line, 800-708-2680 or visit our web site at:
http://cleanup.inel.gov

Transferring spent nuclear fuel to safer storage

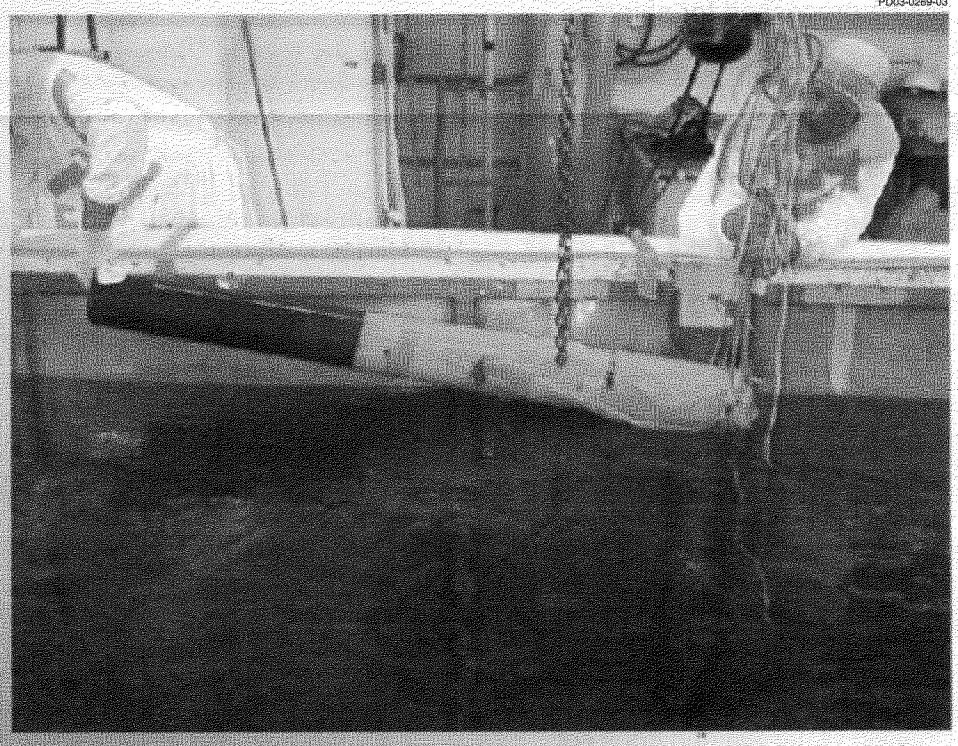
Spent nuclear fuel has been stored for more than 40 years in five underwater storage basins. Today all of the spent nuclear fuel from the INEEL's five aged underwater storage basins has been removed and placed into safer dry storage. To be successful, this project has overcome challenges by sharing innovative solutions to technical problems, preparing integrated schedules, and efficiently utilizing shared resources.

Under an agreement with the state of Idaho, all spent nuclear fuel at the INEEL must be in dry storage by 2023. Now, under the accelerated cleanup plan, Bechtel BWXT Idaho anticipates completing this work by 2012.

PD02-0567-01

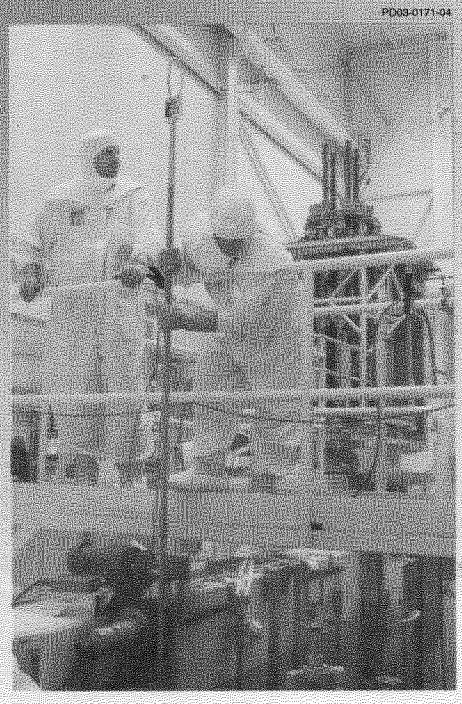
More than 105 nuclear fuel units from the Materials Test Reactor canal and 23 fuel units from the pool at Test Area North were transferred to dry storage facilities.

PD03-0269-03

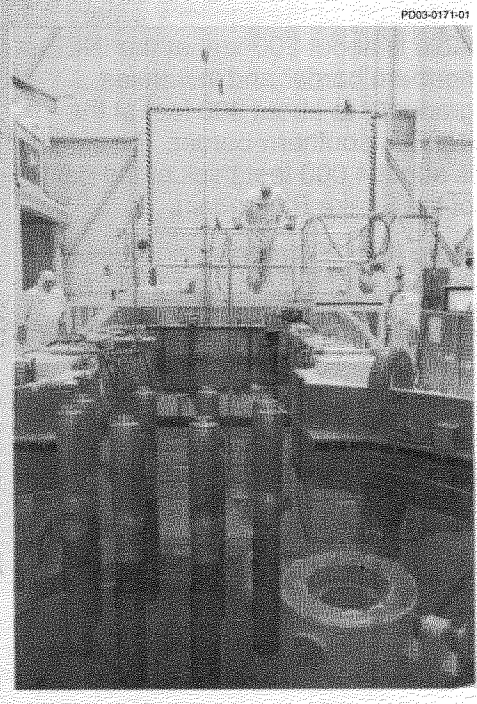


Idaho Completion Project workers remove debris from the canal at the Materials Test Reactor.

PD03-0171-04



PD03-0171-01



Idaho Completion Project workers removed more than 2,400 spent fuel elements from underwater storage at the Power Burst Facility.

Changing the skyline

A key component of accelerating cleanup at the INEEL is the removal of buildings and structures that are no longer needed, many of which are contaminated.

Over the past two years, crews have removed more than 200,000 square feet of buildings and structures, reducing facility management costs. During the next few years, additional buildings and structures will be removed from service and torn down. Some facilities may be decontaminated and used to support new missions at the INEEL.

PD03-0278-05

PN02-0257-01-09

PD02-0229-04

Test Area North continues to be a focus point for demolition work at the INEEL. More than 50 percent of the tanks managed under the Voluntary Consent Order, an agreement signed by DOE and the state of Idaho, have been characterized and are now undergoing closure.

Snake River Plain Aquifer

Monitoring the Snake River Plain Aquifer

Over the years, operations at the INEEL have contaminated portions of the aquifer with hazardous chemicals and radioactive substances. Scientists closely monitor the groundwater leaving the INEEL's boundaries to ensure that it continues to meet the standards established in the federal Safe Drinking Water Act and does not pose a risk to water users in neighboring communities.

The depth of the aquifer's water table is about 200 feet at the INEEL's northern border and increases gradually to about 900 feet at the INEEL's southern border. The aquifer is about 4,000 feet thick at the center of the Snake River Plain.

More than 200 monitoring wells are used to regularly collect groundwater samples around the INEEL. The United States Geological Survey and the state of Idaho also sample the wells. Samples provide data for evaluating the groundwater's quality, which indicates the effectiveness of cleanup efforts and helps scientists understand the nature of the aquifer.

Other steps are being taken to protect the groundwater. More than 119 million gallons of contaminated groundwater has been treated through innovative INEEL processes. Older disposal ponds have been replaced with lined evaporation ponds. Dikes and other controls are being used to reduce or eliminate water sources that can move contaminants into the ground. Injection wells are no longer used, and wastewater that is disposed of in sewage drain fields and disposal ponds no longer carries contaminants in concentrations that pose a risk.

The eastern Snake River Plain Aquifer is extensively monitored to provide the most comprehensive information possible for making effective cleanup decisions to ensure that the aquifer is protected for the long-term.